

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES****OFFICE ENGINEER**1727 30th Street MS-43

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November 28, 2012

03-ED-50-73.7/75.4

03-1A7324

Project ID 0300000214

ACNH-P050(129)

Addendum No. 3

Dear Contractor:

This addendum is being issued to the contract for CONSTRUCTION ON STATE HIGHWAY IN EL DORADO COUNTY IN AND NEAR SOUTH LAKE TAHOE FROM 0.1 MILE SOUTH OF AIRPORT ROAD TO ROUTE 50/89 SEPARATION.

Submit bids for this work with the understanding and full consideration of this addendum. The revisions declared in this addendum are an essential part of the contract.

Bids for this work will be opened on Tuesday, December 4, 2012.

This addendum is being issued to revise the Notice to Bidders and Special Provisions.

In the Special Provisions, Section 10-1.40, "HOT MIX ASPHALT," is revised as attached.

In the Special Provisions, Section 10-1.48, "STAINING GALVANIZED STEEL SURFACES," subsection "CONSTRUCTION," is revised as attached.

To Bid book holders:

Inquiries or questions in regard to this addendum must be communicated as a bidder inquiry and must be made as noted in the Notice to Bidders section of the Notice to Bidders and Special Provisions.

Indicate receipt of this addendum by filling in the number of this addendum in the space provided on the signature page of the Bid book.

Submit bids in the Bid book you now possess. Holders who have already mailed their book will be contacted to arrange for the return of their book.

Inform subcontractors and suppliers as necessary.

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This addendum and attachments are available for the Contractors' download on the Web site:

http://www.dot.ca.gov/hq/esc/oe/project_ads_addenda/03/03-1A7324

If you are not a Bid book holder, but request a book to bid on this project, you must comply with the requirements of this letter before submitting your bid.

Sincerely,


REBECCA D. HARNAGEL
Chief, Office of Plans, Specifications & Estimates
Office Engineer
Division of Engineering Services

Attachments

10-1.40 HOT MIX ASPHALT

GENERAL

Summary

This work includes producing and placing hot mix asphalt (HMA) Type A using the Quality Control / Quality Assurance process.

Comply with Section 39, "Hot Mix Asphalt," of the Standard Specifications.

Submittals

Quality Control / Quality Assurance Projects

With the job mix formula (JMF) submittal, submit:

1. California Test 204 plasticity index results
2. California Test 371 dry strength for untreated HMA
3. California Test 371 tensile strength ratio results for untreated HMA
4. California Test 371 tensile strength ratio results for treated HMA if untreated HMA tensile strength ratio is below 70
5. AASHTO T 324 (Modified) test results data showing number of passes with rut depth for plant produced HMA
6. AASHTO T 324 (Modified) test results data showing number of passes at inflection point for plant produced HMA

At production start-up and once during production, submit samples split from your HMA production sample for California Test 371 and AASHTO T324 (Modified) test to the Engineer and the Transportation Laboratory, Attention: Moisture Test.

With the JMF submittal, JMF verification, at production start-up, and each 10,000 tons, submit the California Test 371 test results and AASHTO T 324 (Modified) test results for mix design and production to the Engineer and electronically to:

Moisture_Tests@dot.ca.gov

With the JMF submittal, JMF verification, at production start-up evaluation, and each 10,000 tons, submit 1 tested sample set from AASHTO T 324 (Modified) test to the Engineer.

Data Cores

Three business days before starting coring, submit proposed methods and materials for backfilling data core holes. Submit to the Engineer and electronically to Coring@dot.ca.gov:

1. A summary of data cores taken
2. A photograph of each data core

For each data core, the summary must include:

1. Project identification number
2. Date cored
3. Core identification number
4. Type of materials recovered
5. Type and approximate thickness of unstabilized material not recovered
6. Total core thickness
7. Thickness of each individual material to within:
 - 7.1. For recovered material, 1/2 inch
 - 7.2. For unstabilized material, 1.0 inch
8. Location including:
 - 8.1. County
 - 8.2. Route

- 8.3. Post mile
- 8.4. Lane number
- 8.5. Lane direction
- 8.6. Station

Each data core digital photograph must include a ruler laid next to the data core. Each photograph must include:

1. The core
2. Project identification number
3. Core identification number
4. Date cored
5. County
6. Route
7. Post mile
8. Lane number
9. Lane direction

After data core summary and photograph submittal, dispose of cores under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Mix Design

Quality Control / Quality Assurance Projects

For the mix design, determine AASHTO T 324 (Modified) on plant produced untreated HMA.

AASHTO T 324 (Modified) is AASHTO T 324 "Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)" with the following parameters:

1. Target air voids = 7+/- 1%
2. Number of test specimens = 4
3. Test specimen= 6" gyratory compacted specimen
4. Test temperature = 122 °F +/- 2°F
5. Measurements: Impression at every 100 passes
6. Inflection point^a
7. Testing shut off = 25,000 passes

^a The inflection point is defined as: The number of wheel passes at the intersection of the creep slope and the stripping slope.

Perform a mix design that produces HMA with the values for the quality characteristics shown in the following table:

Hot Mix Asphalt Mix Design Requirements

Quality Characteristic	Test Method	HMA Type	
		A	B
Moisture susceptibility (minimum dry strength, psi)	California Test 371	120	120
Moisture susceptibility (tensile strength ratio, %)	California Test 371	70	70
Hamburg wheel track (minimum number of passes at 0.5 inch average rut depth)	AASHTO T 324 (Modified) ^a		
PG-58		10,000	10,000
PG 64		15,000	15,000
PG-70		20,000	20,000
PG-76		25,000	25,000
Hamburg wheel track (inflection point minimum number of passes) ^b	AASHTO T 324 (Modified) ^a		
PG-58		10,000	10,000
PG 64		10,000	10,000
PG-70		12,500	12,500
PG-76		15,000	15,000

Notes:

^a AASHTO T 324 (Modified) is AASHTO T 324 "Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)" with the following parameters:

- i. Target air voids = 7+/- 1%
- ii. Number of test specimens = 4
- iii. Test specimen= 6" gyratory compacted specimen
- iv. Test temperature = 122 °F +/- 2°F
- v. Measurements: Impression at every 100 passes
- vi. Inflection point^b
- vii. Testing shut off = 25,000 passes

^b The inflection point is defined as the number of wheel passes at the intersection of the creep slope and the stripping slope.

For the mix design, when the determined test results under California Test 371 or AASHTO T 324 (Modified) for untreated HMA is less than minimum requirement for hot mix asphalt mix design, determine the plasticity index of the aggregate blend under California Test 204. Choose from the antistrip treatments based on plasticity index in compliance with:

Hot Mix Asphalt Antistrip Treatment Options

Plasticity index	California Test 204	Dry hydrated lime with marination Lime slurry with marination
Plasticity index from 4 to 10 ^a		
Plasticity index less than 4	California Test 204	Liquid antistrip
		Dry hydrated lime without marination
		Dry hydrated lime with marination
		Lime slurry with marination

Notes:

^a If the plasticity index is greater than 10, do not use that aggregate blend.

Mix design for treated HMA must produce HMA with the values for the quality characteristics shown in the hot mix asphalt mix design requirements table.

Job Mix Formula Verification

Use the optimum binder content (OBC) specified on your *Contractor Hot Mix Asphalt Design Data* form. No adjustments to asphalt binder content are allowed. Based on your testing and production experience, you may submit an adjusted aggregate gradation TV on a *Contractor Job Mix Formula Proposal* form before verification testing. Aggregate gradation TV must be within the TV limits specified in the aggregate gradation tables.

Asphalt binder set point for HMA must be the OBC specified on your *Contractor Hot Mix Asphalt Design Data* form. When RAP is used, asphalt binder set point for HMA must be:

$$\text{Asphalt Binder Set Point} = BC_{\text{OBC}} - (R_{\text{RAP}} * BC_{\text{RAP}})$$

Where:

BC_{OBC} = optimum asphalt binder content

R_{RAP} = RAP ration by weight of aggregate

BC_{RAP} = asphalt binder content of RAP

If tests on plant-produced samples do not verify the JMF, the Engineer notifies you and you must submit a new JMF or submit an adjusted JMF based on your testing. JMF adjustments may include a change in aggregate gradation TV within the TV limits specified in the aggregate gradation tables.

For JMF verification, perform AASHTO T 324 (Modified) for compliance with hot mix asphalt mix design requirements. Submit 1 tested sample set from AASHTO T 324 (Modified) test to the Engineer.

For JMF verification, the Engineer may verify that the HMA complies with hot mix asphalt mix design requirements for AASHTO T 324 (Modified) or California Test 371 minimum dry tensile strength.

PRODUCTION

During production, you may adjust hot or cold feed proportion controls for virgin aggregate and RAP.

During production, asphalt binder set point for HMA Type A, HMA Type B, HMA Type C, and RHMA-G must be the OBC shown in *Contractor Hot Mix Asphalt Design Data* form. For OGFC, asphalt binder set point must be the OBC shown on *Caltrans Hot Mix Asphalt Verification* form. If RAP is used, asphalt binder set point for HMA must be:

$$\text{Asphalt Binder Set Point} = BC_{\text{OBC}} - (R_{\text{RAP}} * BC_{\text{RAP}})$$

Where:

BC_{OBC} = optimum asphalt binder content

R_{RAP} = RAP ration by weight of aggregate

BC_{RAP} = asphalt binder content of RAP

You must request adjustments to the plant asphalt binder set point based on new RAP stockpiles average asphalt binder content. Do not adjust the HMA plant asphalt binder set point until authorized.

MATERIALS

Asphalt Binder

The grade of asphalt binder mixed with aggregate for HMA Type A must be PG 64-28.

Aggregate

The aggregate for HMA Type A must comply with the 1/2-inch grading.

Contractor Quality Control

Quality Control / Quality Assurance Projects

Perform sampling and testing at the specified frequency and location for the following additional quality characteristics:

Minimum Quality Control

Quality characteristic	Test method	Minimum sampling and testing frequency	Requirement		Sampling location	Maximum reporting time allowance
			HMA Type			
			A	B		
Moisture susceptibility (minimum dry strength, psi)	California Test 371	First production day and 1 per every 10,000 tons	120	120	Loose mix behind the paver. See California Test 125	10 working days
Moisture susceptibility (tensile strength ratio, %)	California Test 371		Report Only	Report Only		
Hamburg wheel track (minimum number of passes at 0.5 inch average rut depth) PG-58 PG 64 PG-70 PG-76	AASHTO T 324 (Modified) ^a	First production day and 1 per every 10,000 tons	10,000 15,000 20,000 25,000	10,000 15,000 20,000 25,000	Loose mix behind the paver. See California Test 125	72 hours ^c
Hamburg wheel track (inflection point minimum number of passes) ^b PG-58 PG 64 PG-70 PG-76	AASHTO T 324 (Modified) ^a		10,000 10,000 12,500 15,000	10,000 10,000 12,500 15,000		

Notes:

^aAASHTO T 324 (Modified) is AASHTO T 324 "Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)" with the following parameters:

- i. Target air voids = 7+/- 1%
- ii. Number of test specimens = 4
- iii. Test specimen= 6" gyratory compacted specimen
- iv. Test temperature = 122 °F +/- 2°F
- v. Measurements: Impression at every 100 passes
- vi. Inflection point^b
- vii. Testing shut off = 25,000 passes

^b The inflection point is defined as: The number of wheel passes at the intersection of the creep slope and the stripping slope.

^c Submit to the Engineer within 72 hours of sampling, 1 tested sample set and data for AASHTO T 324 (Modified).

ENGINEERS ACCEPTANCE

The Engineer samples HMA for acceptance testing and tests for the following additional quality characteristics:

HMA Acceptance				
Quality characteristic	Test method	Requirement		Sampling location
		HMA Type		
		A	B	
Moisture susceptibility (minimum dry strength, psi)	California Test 371	120	120	Loose mix behind the paver. See California Test 125
Moisture susceptibility (tensile strength ratio, %)	California Test 371	Report Only	Report Only	
Hamburg wheel track (minimum number of passes at 0.5 inch average rut depth) PG-58 PG 64 PG-70 PG-76	AASHTO T 324 (Modified) ^a	10,000 15,000 20,000 25,000	10,000 15,000 20,000 25,000	Loose mix behind the paver. See California Test 125
Hamburg wheel track (inflection point minimum number of passes) ^b PG-58 PG 64 PG-70 PG-76	AASHTO T 324 (Modified) ^a	10,000 10,000 12,500 15,000	10,000 10,000 12,500 15,000	

Notes:

^a AASHTO T 324 (Modified) is AASHTO T 324 "Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)" with the following parameters:

- i. Target air voids = 7+/- 1%
- ii. Number of test specimens = 4
- iii. Test specimen= 6" gyratory compacted specimen
- iv. Test temperature = 122 °F +/- 2°F
- v. Measurements: Impression at every 100 passes
- vi. Inflection point^b
- vii. Testing shut off = 25,000 passes

^b The inflection point is defined as: The number of wheel passes at the intersection of the creep slope and the stripping slope.

The Department does not use California Test 371 tensile strength ratio test results from production to determine specification compliance.

CONSTRUCTION

You must request adjustments to the plant asphalt binder set point based on new RAP stockpiles average binder content. Do not adjust the HMA plant asphalt binder set point until approved by the Engineer.

Vertical Joints

Before opening the lane to public traffic, pave shoulders and median borders adjacent to a lane being paved.

Place HMA on adjacent traveled way lanes so that at the end of each work shift, the distance between the ends of HMA layers on adjacent lanes is between 5 feet and 10 feet. Place additional HMA along the transverse edge at each lane's end and along the exposed longitudinal edges between adjacent lanes. Hand rake and compact the additional HMA to form temporary conforms. You may place Kraft paper or another approved bond breaker under the conform tapers to facilitate the taper removal when paving operations resume.

Widening

If widening existing pavement, construct new structural section on both sides of the existing pavement to match the elevation of the existing pavement's edge at each location before placing HMA over the existing pavement.

Conform Tapers

Place additional HMA along the pavement's edge to conform to road connections and private drives. Hand rake, if necessary, and compact the additional HMA to form a smooth conform taper.

Data Cores

Take data cores that include the completed HMA pavement, underlying base, and subbase material. Protect data cores and surrounding pavement from damage.

Take 4-inch or 6-inch diameter data cores:

1. At the beginning, end, and every 1/2 mile within the paving limits of each route on the project
2. After all paving is complete
3. From the center of the specified lane

On a 2-lane roadway, take data cores from either lane. On a 4-lane roadway, take data cores from each direction in the outermost lane. On a roadway with more than 4 lanes, take data cores from the median lane and the outermost lane in each direction.

Each core must include the stabilized materials encountered. You may choose not to recover unstabilized material but you must identify the material. Unstabilized material includes:

1. Granular material
2. Crumbled or cracked stabilized material
3. Sandy or clayey soil

PAYMENT

The contract lump sum price paid for data core includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in data coring, complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

CONSTRUCTION

The Engineer will verify locations of existing galvanized steel surfaces to be cleaned and stained.

Preparation

Galvanized steel surfacing and appurtenances to be stained must be free of oils, dirt, and other contaminants.

Cleaning existing galvanized steel must be performed by one of the following methods:

- A. Steam cleaning conforming to Section 59-2.05, "Steam Cleaning," of the Standard Specifications.
- B. Scrubbing with a brush and biodegradable detergent and thoroughly rinsing with clean water.
- C. Pressure washing with biodegradable detergent and thoroughly rinsing with clean water.
- D. Solvent cleaning conforming to the requirements in Surface Preparation Specification No. 1, "Solvent Cleaning," of the "SSPC - The Society for Protective Coatings."

All surfaces must be dried thoroughly before application of stain.

Application

After areas to be stained have been prepared and the test section approved, apply stain to all existing galvanized steel surfaces and appurtenances visible from the highway. Apply stain according to the manufacturer's instructions to achieve a color consistent with the approved test section. Spray application must be contained to prevent overspray onto adjacent surfaces and wood posts. Spray application should not be performed under windy conditions.

Stain must be applied to new galvanized steel surfaces and non-threaded appurtenances at an offsite location within an enclosed shop before delivery to the job site. Stain must be applied to front and back faces according to the manufacturer's instructions to achieve a color consistent with the approved test section. Threading on appurtenances shall not be stained prior to installation, so that the function of the threads is not compromised. After final connections of threaded appurtenances are made, a stain shall be applied in the field according to the manufacturer's instructions to visible portions of the threaded appurtenances. Field spray application must be contained to prevent overspray onto adjacent surfaces and wood posts. Field spray application should not be performed under windy conditions. Following field stain applications, the appearance of all galvanized steel surfaces and appurtenances, shall have a final color that remains consistent with the approved test section.

Stain must be applied uniformly. Irregularities must be corrected according to the stain manufacturer's recommendations.

The stained galvanized steel surfaces and appurtenances must be protected from damage during shipping, handling and installation. Any damage to the stained galvanized steel surfaces and appurtenances must be repaired according to the stain manufacturer's recommendations. The repair must result in a uniform surface appearance.

Stained surfaces must be kept dry for a period of 10 days following the application of stain.